

AMENDMENTS

In the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

1-2. (Cancelled)

3. (Currently Amended) A local dry etching method ~~according to claim 2, wherein the removal of the silicon oxide film and the etching of the exposed silicon are carried out with a same nozzle~~ for flattening a semiconductor wafer by removing unevenness from a surface of the wafer using a nozzle for applying a flow of an activated species gas to the surface of the wafer, the method comprising:

providing a semiconductor wafer having a silicon oxide film formed on a surface thereof;
removing the silicon oxide film by moving the nozzle for applying the flow of the activated species gas at a speed relative to the semiconductor wafer so that silicon is exposed on the surface of the semiconductor wafer; and

etching the exposed silicon by moving the nozzle for applying the flow of the activated species gas at a controlled speed relative to the semiconductor wafer.

4. (Previously Presented) A local dry etching method according to claim 3, wherein the removal of the silicon oxide film and the etching of the exposed silicon are carried out in a vacuum chamber without breaking a vacuum of the chamber.

5. (Previously Presented) A local dry etching method according to claim 4, wherein the speed for moving the nozzle for removing the silicon oxide film is constant, and the speed for moving the nozzle for etching the exposed silicon is variable so as to correspond to local unevenness of the semiconductor wafer.

6. (Previously Presented) A local dry etching method according to claim 4, wherein the nozzle is moved by a pitch, and the pitch for removing the silicon oxide film is larger than the pitch for etching the exposed silicon.

7. (Previously Presented) A local dry etching method according to claim 4, wherein an etching profile of the flow of the activated species gas for removing the silicon oxide film is

wider than the etching profile of the flow of the activated species gas for etching the exposed silicon by adjusting a flow-in rate of the activated species gas through the nozzle and a flow-out rate of the activated species gas through a duct surrounding the nozzle.

8. (Currently Amended) A local dry etching method according to claim [[1]]3, wherein the activated species gas comprises fluorine radicals.

9. (Withdrawn) A local dry etching apparatus comprising:

- a vacuum chamber;
- a vacuum pump for pumping gas from said vacuum chamber;
- a stage, provided in said vacuum chamber, for mounting and fixing a semiconductor wafer;
- a plasma generator for generating activated species gas using discharge of fluorine compound gas;
- a nozzle for applying a flow of the activated gas generated by said plasma generator to the surface of the semiconductor wafer on said stage;
- a duct which is connected to said vacuum pump and provided to surround said nozzle and through which the exhaust gas in the vacuum chamber passes;
- an exhaust gas pumping rate control unit, provided between said vacuum pump and said vacuum chamber to control the etching profile of the activated species gas applied from said nozzle, for controlling the pumping rate of gas exhausted by the vacuum pump;
- an X-Y drive unit which can move said nozzle in two directions along the surface of the semiconductor wafer on said stage relative to each other; and
- a control unit for controlling said X-Y drive unit.